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<212> DNA

<213> Bacillus sp. I633

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<210> 2

<211> 490

<212> PRT

<213> Bacillus sp. I633

<400> 2

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Asn Ser Gly Phe Tyr Val Ser Gly Thr Thr Leu Tyr Asp Ala Asn Gly
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 Asp Gln Ala Thr Thr Ala Ile Glu Gly Ile Ala Asn Thr Gly Ala Asn
 65 70 75 80
 Thr Val Arg Ile Val Leu Ser Asp Gly Gly Gln Trp Thr Lys Asp Asp
 85 90 95
 Ile His Thr Val Arg Asn Leu Ile Ser Leu Ala Glu Asp Asn His Leu
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 Val Ala Val Pro Glu Val His Asp Ala Thr Gly Tyr Asp Ser Ile Ala
 115 120 125
 Ser Leu Asn Arg Ala Val Asp Tyr Trp Ile Glu Met Arg Ser Ala Leu
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 Gly Ser Trp Glu Gly Asp Ala Trp Ala Asp Gly Tyr Lys Gln Ala Ile
 165 170 175
 Pro Arg Leu Arg Asn Ala Gly Leu Asn His Thr Leu Met Val Asp Ala
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 Ala Gly Trp Gly Gln Phe Pro Gln Ser Ile His Asp Tyr Gly Arg Glu
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 Val Phe Asn Ala Asp Pro Gln Arg Asn Thr Met Phe Ser Ile His Met
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 Tyr Glu Tyr Ala Gly Gly Asn Ala Ser Gln Val Arg Thr Asn Ile Asp
 225 230 235 240
 Arg Val Leu Asn Gln Asp Leu Ala Leu Val Ile Gly Glu Phe Gly His
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 Arg His Thr Asn Gly Asp Val Asp Glu Ala Thr Ile Met Ser Tyr Ser
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 Glu Gln Arg Gly Val Gly Trp Leu Ala Trp Ser Trp Lys Gly Asn Gly
 275 280 285
 Pro Glu Trp Glu Tyr Leu Asp Leu Ser Asn Asp Trp Ala Gly Asn Asn
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 Leu Thr Ala Trp Gly Asn Thr Ile Val Asn Gly Pro Tyr Gly Leu Arg
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 325 330 335
 Gly Thr Ser Pro Thr Thr Leu Tyr Asp Phe Glu Gly Ser Met Gln Gly
 340 345 350

Trp Thr Gly Ser Ser Leu Ser Gly Gly Pro Trp Ala Val Thr Glu Trp
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Asn Ser Arg Ile Gln Ala Thr Val Lys His Ala Asn Trp Gly Ser Val
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Gly Asn Gly Met Thr Ala Arg Leu Tyr Val Lys Thr Gly His Gly Tyr
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Thr Trp Tyr Ser Gly Ser Phe Val Pro Ile Asn Gly Ser Ser Gly Thr
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<210> 3

<211> 1438

<212> DNA

<213> Bacillus sp. I633

<400> 3

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 <212> PRT
 <213> Bacillus sp.

<400> 4

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Lys	Asp	Gln	Ala	Thr	Thr	Ala	Ile	Glu	Gly	Ile	Ala	Asn	Thr	Gly	Ala	35	40	45	
Asn	Thr	Val	Arg	Ile	Val	Leu	Ser	Asp	Gly	Gly	Gln	Trp	Thr	Lys	Asp	50	55	60	
Asp	Ile	His	Thr	Val	Arg	Asn	Leu	Ile	Ser	Leu	Ala	Glu	Asp	Asn	His	65	70	75	80
Leu	Val	Ala	Val	Pro	Glu	Val	His	Asp	Ala	Thr	Gly	Tyr	Asp	Ser	Ile	85	90	95	
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Phe	Gly	Ser	Trp	Glu	Gly	Asp	Ala	Trp	Ala	Asp	Gly	Tyr	Lys	Gln	Ala	130	135	140	
Ile	Pro	Arg	Leu	Arg	Asn	Ala	Gly	Leu	Asn	His	Thr	Leu	Met	Val	Asp	145	150	155	160
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Asn	Leu	Thr	Ala	Trp	Gly	Asn	Thr	Ile	Val	Asn	Gly	Pro	Tyr	Gly	Leu	275	280	285	

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 305 310 315 320
 Glu Phe Tyr Asn Ser Asn Pro Ser Asp Thr Thr Asn Ser Ile Asn Pro
 325 330 335
 Gln Phe Lys Val Thr Asn Thr Gly Ser Ser Ala Ile Asp Leu Ser Lys
 340 345 350
 Leu Thr Leu Arg Tyr Tyr Tyr Thr Val Asp Gly Gln Lys Asp Gln Thr
 355 360 365
 Phe Trp Cys Asp His Ala Ala Ile Ile Gly Ser Asn Gly Ser Tyr Asn
 370 375 380
 Gly Ile Thr Ser Asn Val Lys Gly Thr Phe Val Lys Met Ser Ser Ser
 385 390 395 400
 Thr Asn Asn Ala Asp Thr Tyr Leu Glu Ile Ser Phe Thr Gly Gly Thr
 405 410 415
 Leu Glu Pro Gly Ala His Val Gln Ile Gln Gly Arg Phe Ala Lys Asn
 420 425 430
 Asp Trp Ser Asn Tyr Thr Gln Ser Asn Asp Tyr Ser Phe Lys Ser Arg
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 Ser Gln Phe Val Glu Trp Asp Gln Val Thr Ala Tyr Leu Asn Gly Val
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<211> 1482

<212> DNA

<213> Bacillus agaradhaerens

<400> 5

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<213> Bacillus agaradhaerens

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Ser Thr Gly Phe Tyr Val Asp Gly Asn Thr Leu Tyr Asp Ala Asn Gly
35 40 45

Gln Pro Phe Val Met Arg Gly Ile Asn His Gly His Ala Trp Tyr Lys
50 55 60

Asp Thr Ala Ser Thr Ala Ile Pro Ala Ile Ala Glu Gln Gly Ala Asn
65 70 75 80

Thr Ile Arg Ile Val Leu Ser Asp Gly Gly Gln Trp Glu Lys Asp Asp
85 90 95

Ile Asp Thr Ile Arg Glu Val Ile Glu Leu Ala Glu Gln Asn Lys Met
100 105 110

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Val Ala Val Val Glu Val His Asp Ala Thr Gly Arg Asp Ser Arg Ser
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Ile Gly Lys Glu Asp Thr Val Ile Ile Asn Ile Ala Asn Glu Trp Tyr
145 150 155 160

Gly Ser Trp Asp Gly Ser Ala Trp Ala Asp Gly Tyr Ile Asp Val Ile
165 170 175

Pro Lys Leu Arg Asp Ala Gly Leu Thr His Thr Leu Met Val Asp Ala
180 185 190

Ala Gly Trp Gly Gln Tyr Pro Gln Ser Ile His Asp Tyr Gly Gln Asp
195 200 205

Val Phe Asn Ala Asp Pro Leu Lys Asn Thr Met Phe Ser Ile His Met
210 215 220

Tyr Glu Tyr Ala Gly Gly Asp Ala Asn Thr Val Arg Ser Asn Ile Asp
 225 230 235 240
 Arg Val Ile Asp Gln Asp Leu Ala Leu Val Ile Gly Glu Phe Gly His
 245 250 255
 Arg His Thr Asp Gly Asp Val Asp Glu Asp Thr Ile Leu Ser Tyr Ser
 260 265 270
 Glu Glu Thr Gly Thr Gly Trp Leu Ala Trp Ser Trp Lys Gly Asn Ser
 275 280 285
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 305 310 315 320
 Glu Thr Ser Lys Pro Ser Thr Val Phe Thr Asp Asp Asn Gly Gly His
 325 330 335
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 340 345 350
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 370 375 380
 Thr Ser Asn Ser Ser His Glu Leu Tyr Ser Glu Gln Ser Arg Asn Leu
 385 390 395 400
 His Gly Tyr Ser Gln Leu Asn Ala Thr Val Arg His Ala Asn Trp Gly
 405 410 415
 Asn Pro Gly Asn Gly Met Asn Ala Arg Leu Tyr Val Lys Thr Gly Ser
 420 425 430
 Asp Tyr Thr Trp His Ser Gly Pro Phe Thr Arg Ile Asn Ser Ser Asn
 435 440 445
 Ser Gly Thr Thr Leu Ser Phe Asp Leu Asn Asn Ile Glu Asn Ser His
 450 455 460
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<210> 7

<211> 1407

<212> DNA

<213> Bacillus agaradhaerens

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<210> 8

<211> 468

<212> PRT

<213> *Bacillus agaradhaerens*

<400> 8

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Ser Thr Gly Phe Tyr Val Asp Gly Asn Thr Leu Tyr Asp Ala Asn Gly
      35              40              45

Gln Pro Phe Val Met Arg Gly Ile Asn His Gly His Ala Trp Tyr Lys
      50              55              60

Asp Thr Ala Ser Thr Ala Ile Pro Ala Ile Ala Glu Gln Gly Ala Asn
      65              70              75              80

Thr Ile Arg Ile Val Leu Ser Asp Gly Gly Gln Trp Glu Lys Asp Asp
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Ile Asp Thr Ile Arg Glu Val Ile Glu Leu Ala Glu Gln Asn Lys Met
      100              105              110

Val Ala Val Val Glu Val His Asp Ala Thr Gly Arg Asp Ser Arg Ser
      115              120              125

Asp Leu Asn Arg Ala Val Asp Tyr Trp Ile Glu Met Lys Asp Ala Leu
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Ile Gly Lys Glu Asp Thr Val Ile Ile Asn Ile Ala Asn Glu Trp Tyr
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 Gln Gly Trp His Gly Ser Asn Val Thr Gly Gly Pro Trp Ser Val Thr
 355 360 365
 Glu Trp Gly Ala Ser Gly Asn Tyr Ser Leu Lys Ala Asp Val Asn Leu
 370 375 380
 Thr Ser Asn Ser Ser His Glu Leu Tyr Ser Glu Gln Ser Arg Asn Leu
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 His Gly Tyr Ser Gln Leu Asn Ala Thr Val Arg His Ala Asn Trp Gly
 405 410 415
 Asn Pro Gly Asn Gly Met Asn Ala Arg Leu Tyr Val Lys Thr Gly Ser
 420 425 430
 Asp Tyr Thr Trp His Ser Gly Pro Phe Thr Arg Ile Asn Ser Ser Asn
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 Met Leu Gly Lys
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<210> 9
 <211> 1761
 <212> DNA
 <213> Bacillus halodurans

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<210> 10
 <211> 586
 <212> PRT
 <213> Bacillus halodurans

<400> 10
 Met Lys Ser Ile Lys Lys Leu Val Val Val Cys Met Ala Phe Leu Leu
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 Ile Phe Pro Ser Thr Ser Phe Ala Phe Ser Gly Ser Val Ser Ala Ser
 20 25 30
 Gly Gln Glu Leu Lys Met Thr Asp Gln Asn Ala Ser Gln Tyr Thr Lys
 35 40 45
 Glu Leu Phe Ala Phe Leu Arg Asp Val Ser Gly Lys Gln Val Leu Phe
 50 55 60
 Gly Gln Gln His Ala Thr Asp Glu Gly Leu Thr Leu Arg Gly Thr Gly

65	70	75	80
Asn Arg Ile Gly Ser Thr Glu Ser Glu Val Lys Asn Ala Val Gly Asp	85	90	95
Tyr Pro Ala Val Phe Gly Trp Asp Thr Asn Ser Leu Asp Gly Arg Glu	100	105	110
Lys Pro Gly Asn Asp Glu Pro Ser Gln Glu Gln Arg Ile Leu Asn Thr	115	120	125
Ala Ala Ser Met Lys Ala Ala His Asp Leu Gly Gly Ile Ile Thr Leu	130	135	140
Ser Met His Pro Asp Asn Phe Val Thr Gly Gly Ala Tyr Gly Asp Thr	145	150	155
Thr Gly Asn Val Val Gln Glu Ile Leu Pro Gly Gly Ser Lys His Glu	165	170	175
Glu Phe Asn Ala Trp Leu Asp Asn Leu Ala Ala Leu Ala His Glu Leu	180	185	190
Lys Asp Asp Asn Gly Lys His Ile Pro Ile Ile Phe Arg Pro Phe His	195	200	205
Glu Gln Thr Gly Ser Trp Phe Trp Trp Gly Ala Ser Thr Thr Thr Pro	210	215	220
Glu Gln Tyr Lys Ala Ile Tyr Arg Tyr Thr Val Glu Tyr Leu Arg Asp	225	230	235
Val Lys Gly Ala Asn Asn Phe Leu Tyr Gly Phe Ser Pro Gly Ala Gly	245	250	255
Pro Ala Gly Asp Leu Asn Arg Tyr Met Glu Thr Tyr Pro Gly Asp Asp	260	265	270
Tyr Val Asp Ile Phe Gly Ile Asp Asn Tyr Asp Asn Lys Ser Asn Ala	275	280	285
Gly Ser Glu Ala Trp Ile Gln Gly Val Val Thr Asp Leu Ala Met Leu	290	295	300
Val Asp Leu Ala Glu Glu Lys Gly Lys Ile Ala Ala Phe Thr Glu Tyr	305	310	315
Gly Tyr Ser Ala Thr Gly Met Asn Arg Thr Gly Asn Thr Leu Asp Trp	325	330	335
Tyr Thr Arg Leu Leu Asn Ala Ile Lys Glu Asp Pro Lys Ala Ser Lys	340	345	350
Ile Ser Tyr Met Leu Thr Trp Ala Asn Phe Gly Phe Pro Asn Asn Met	355	360	365
Tyr Val Pro Tyr Lys Asp Ile His Gly Asp Leu Gly Gly Asp His Glu	370	375	380
Leu Leu Pro Asp Phe Ile Lys Phe Phe Glu Asp Asp Tyr Ser Ala Phe			

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385	390	395	400
Thr Gly Asp Ile Lys Gly Asn Val Tyr Asp Thr Gly Ile Glu Tyr Thr	405	410	415
Val Ala Pro His Glu Arg Leu Met Tyr Val Leu Ser Pro Ile Thr Gly	420	425	430
Thr Thr Ile Thr Asp Thr Val Thr Leu Arg Ala Lys Val Leu Asn Asp	435	440	445
Asp Asn Ala Val Val Thr Tyr Arg Val Glu Gly Ser Asp Val Glu His	450	455	460
Glu Met Thr Leu Ala Asp Ser Gly Tyr Tyr Thr Ala Lys Tyr Ser Pro	465	470	475
Thr Ala Glu Val Asn Gly Gly Ser Val Asp Leu Thr Val Thr Tyr Trp	485	490	495
Ser Gly Glu Glu Lys Val Gln Asp Glu Val Ile Arg Leu Tyr Val Lys	500	505	510
Ala Ser Glu Ile Ser Leu Tyr Lys Leu Thr Phe Asp Glu Asp Ile Asn	515	520	525
Gly Ile Lys Ser Asn Gly Thr Trp Pro Glu Asp Gly Ile Thr Ser Asp	530	535	540
Val Ser His Val Ser Phe Asp Gly Asn Gly Lys Leu Lys Phe Ala Val	545	550	555
Asn Gly Met Ser Ser Glu Glu Trp Trp Gln Glu Leu Lys Leu Glu Leu	565	570	575
Thr Asp Leu Ser Asp Val Asn Leu Ala Lys	580	585	

<210> 11
 <211> 995
 <212> DNA
 <213> Bacillus sp. AAI12

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 catgcttggt ttaaacaaga actagaaaca tccatgagag ggattagtca aacaggggca 240
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<210> 12
 <211> 331
 <212> PRT
 <213> Bacillus sp. AAI12

<400> 12
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 Leu Ile Phe Ala Gly Val Leu Asn Thr Ser Ser Ser Gln Ala Glu Ala
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 His His Ser Gly Phe His Val Asn Gly Thr Thr Leu Tyr Asp Ala Asn
 35 40 45
 Gly Asn Pro Phe Val Met Arg Gly Ile Asn His Gly His Ala Trp Phe
 50 55 60
 Lys Gln Glu Leu Glu Thr Ser Met Arg Gly Ile Ser Gln Thr Gly Ala
 65 70 75 80
 Asn Thr Ile Arg Val Val Leu Ser Asn Gly Gln Arg Trp Gln Lys Asp
 85 90 95
 Asp Arg Asn Met Val Ala Ser Val Ile Ser Leu Ala Glu Gln His Gln
 100 105 110
 Met Ile Ala Val Leu Glu Val His Asp Ala Thr Gly Ser Asn Asn Phe
 115 120 125
 Ser Asp Leu Gln Ala Ala Val Asp Tyr Trp Ile Glu Met Lys Asp Val
 130 135 140
 Leu Gln Gly Lys Glu Asp Ile Val Ile Ile Asn Ile Ala Asn Glu Trp
 145 150 155 160
 Tyr Gly Ala Trp Asp Gly Gly Ala Trp Ala Arg Gly Tyr Gln Asn Ala
 165 170 175
 Ile Arg Gln Leu Arg Asn Ala Gly Leu Ser His Thr Phe Met Val Asp
 180 185 190
 Ala Ala Gly Tyr Gly Gln Tyr Pro Gln Ser Val Val Asp Tyr Gly Gln
 195 200 205
 Glu Val Leu Asn Ala Asp Pro Gln Arg Asn Thr Met Phe Ser Val His
 210 215 220
 Met Tyr Glu Tyr Ala Gly Gly Asp Ala Asn Thr Val Arg Arg Asn Ile
 225 230 235 240
 Asp Ser Ile Leu Ser Gln Asn Leu Ala Leu Val Ile Gly Glu Phe Gly
 245 250 255
 His Trp His Tyr Asp Gly Asp Val Asp Glu Asp Thr Ile Leu Ser Tyr

260

265

270

Ser Gln Gln Arg Asn Val Gly Trp Leu Ala Trp Ser Trp His Gly Asn
275 280 285

Ser Glu Gly Val Glu Tyr Leu Asp Leu Ser Asn Asp Phe Ala Gly Asn
290 295 300

Arg Leu Thr Trp Trp Gly Asp Arg Ile Val Asn Gly Pro Asn Gly Ile
305 310 315 320

Arg Gln Thr Ser Lys Arg Ser Ser Val Phe Gln
325 330

<210> 13

<211> 1464

<212> DNA

<213> Humicola insolens

<400> 13

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gttgagtcca gctcgccgg ctactctggt accggatatg tagcgggctt cgacgagccc 240
agtgacaaga tcacgttcca cgtggacagc gagaccacac ggctgtacga cctcaccatc 300
cgcgtggccg ccatactatg cgagaagcgc accaccgtcg tgctcaataa cggcgcgagg 360
agtgaggtct acttcccggc aggcgattcg ttcgtcgaca tcgctgcccg ccaggctcctg 420
ctgaaccagg gcgacaacac catcgacatt gtcaacaact ggggatggta cctgatcgac 480
tccatcacca tccccccctc cgcccccgca cccctcacc aaatcaaccc tccccccgtc 540
aaccctgccg ccgacgacaa cgcgcgggcg ttgtacgcat acctccgctc catctacggc 600
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gtctcgggtg tgtggcactg gaacgcgccc acggggctgt acgacacgcc cgagcgccgg 840
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<210> 14

<211> 488

<212> PRT

<213> Humicola insolens

<400> 14

Met Ala Lys Ala Leu Lys Tyr Phe Ala Trp Gly Leu Ala Ala Leu Ala
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Ser Gln Glu Pro Thr Ser Thr Pro Ser Pro Val Pro Gly Pro Arg Thr
 35 40 45
 Phe Glu Ala Glu Asp Ala Ile Leu Thr Gly Thr Arg Val Glu Ser Ser
 50 55 60
 Leu Ala Gly Tyr Ser Gly Thr Gly Tyr Val Ala Gly Phe Asp Glu Pro
 65 70 75 80
 Ser Asp Lys Ile Thr Phe His Val Asp Ser Glu Thr Thr Arg Leu Tyr
 85 90 95
 Asp Leu Thr Ile Arg Val Ala Ala Ile Tyr Gly Glu Lys Arg Thr Thr
 100 105 110
 Val Val Leu Asn Asn Gly Ala Ala Ser Glu Val Tyr Phe Pro Ala Gly
 115 120 125
 Asp Ser Phe Val Asp Ile Ala Ala Gly Gln Val Leu Leu Asn Gln Gly
 130 135 140
 Asp Asn Thr Ile Asp Ile Val Asn Asn Trp Gly Trp Tyr Leu Ile Asp
 145 150 155 160
 Ser Ile Thr Ile Thr Pro Ser Ala Pro Arg Pro Pro His Gln Ile Asn
 165 170 175
 Pro Ser Pro Val Asn Pro Ala Ala Asp Asp Asn Ala Arg Ala Leu Tyr
 180 185 190
 Ala Tyr Leu Arg Ser Ile Tyr Gly Lys Lys Ile Leu Ser Gly Gln Gln
 195 200 205
 Glu Leu Ser Trp Ala Asn Trp Ile Ala Gln Gln Thr Gly Lys Thr Pro
 210 215 220
 Ala Leu Val Ser Val Asp Met Met Asp Tyr Ser Pro Ser Arg Val Glu
 225 230 235 240
 Arg Gly Thr Val Gly Ser Ala Val Glu Glu Ala Ile Glu His His Arg
 245 250 255
 Arg Gly Gly Ile Val Ser Val Leu Trp His Trp Asn Ala Pro Thr Gly
 260 265 270
 Leu Tyr Asp Thr Pro Glu Arg Arg Trp Trp Ser Gly Phe Tyr Thr Asp
 275 280 285
 Ala Thr Asp Phe Asp Val Ala Arg Ala Leu Ala Asp Thr Thr Asn Ala
 290 295 300
 Asn Tyr Thr Leu Leu Ile Arg Asp Ile Asp Ala Ile Ala Val Gln Leu
 305 310 315 320
 Lys Arg Leu Arg Asp Ala Gly Val Pro Val Leu Trp Arg Pro Leu His
 325 330 335
 Glu Ala Glu Gly Gly Trp Phe Trp Trp Gly Ala Lys Gly Pro Glu Ala
 340 345 350

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Tyr Lys Lys Leu Trp Gly Ile Leu Tyr Asp Arg Leu Thr Asn Tyr His
355 360 365

Gly Leu Asn Asn Leu Leu Trp Val Trp Asn Ser Ile Leu Pro Glu Trp
370 375 380

Tyr Pro Gly Asp Glu Thr Val Asp Ile Val Ser Ala Asp Val Tyr Ala
385 390 395 400

Gln Gly Asn Gly Pro Met Ser Thr Gln Tyr Asn Gln Leu Ile Glu Leu
405 410 415

Gly Lys Asp Lys Lys Met Ile Ala Ala Thr Glu Val Gly Ala Ala Pro
420 425 430

Leu Pro Asp Leu Leu Gln Ala Tyr Glu Ala His Trp Leu Trp Phe Ala
435 440 445

Val Trp Gly Asp Thr Phe Ile Asn Asn Pro Gln Trp Asn Ser Ile Glu
450 455 460

Thr Leu Lys Thr Ile Tyr Asn Ser Asp Tyr Val Leu Thr Leu Asp Glu
465 470 475 480

Ile Gln Gly Trp Arg Asn Ala Gln
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<210> 15
<211> 1107
<212> DNA
<213> Bacillus sp. AA349

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caagctgaag cacctggaaa aacggctgaa aatggagtct gggataaagt tcgaaataat 180
cctggaaaag ccaatcctcc agcaggaaaa gtcaatgggt tttatataga tggaacaacc 240
ttatatgatg caaatggtaa gccatttgtg atgctgggaa ttaaccacgg tcattcatgg 300
tacaagcctc acatagaaac cgcgatggag gcaattgctg atactggagc aaactccatt 360
cgtgtagtgc tctcagatgg acaacagtgg accaaagatg atgttgacga agtagcaaaa 420
attatatctt tagcagaaaa acattcttta gttgctgctc ttgaggtaca tgatgcactc 480
ggaacagatg atattgaacc attacttaaa acagttgatt actggattga gatcaaagat 540
gctttaatcg gaaaagagga caaagtaatt attaacattt ctaatgaatg gtttggttct 600
tgagagcagtg aagggtgggc agatggatat aaaaaagcaa ttcttttact aagagagggc 660
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catgaaaaag gattagaagt ttttaactca gaccattaa agaatacaat gttttccatt 780
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cttgaaaaga atttagctgt agtaattggg gagttcggtc atcatcacta cggaagagat 900
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tctgaaatcg ttagtgtata caaaaaa 1107

<210> 16
<211> 369
<212> PRT

<400> 16																
Met	Arg	Ser	Met	Lys	Leu	Leu	Phe	Ala	Met	Phe	Ile	Leu	Val	Phe	Ser	
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Ser	Phe	Thr	Phe	Asn	Leu	Val	Val	Ala	Gln	Ala	Ser	Gly	His	Gly	Gln	
			20					25					30			
Met	His	Lys	Val	Pro	Trp	Ala	Pro	Gln	Ala	Glu	Ala	Pro	Gly	Lys	Thr	
		35					40					45				
Ala	Glu	Asn	Gly	Val	Trp	Asp	Lys	Val	Arg	Asn	Asn	Pro	Gly	Lys	Ala	
	50					55					60					
Asn	Pro	Pro	Ala	Gly	Lys	Val	Asn	Gly	Phe	Tyr	Ile	Asp	Gly	Thr	Thr	
65					70					75					80	
Leu	Tyr	Asp	Ala	Asn	Gly	Lys	Pro	Phe	Val	Met	Arg	Gly	Ile	Asn	His	
				85					90					95		
Gly	His	Ser	Trp	Tyr	Lys	Pro	His	Ile	Glu	Thr	Ala	Met	Glu	Ala	Ile	
			100					105					110			
Ala	Asp	Thr	Gly	Ala	Asn	Ser	Ile	Arg	Val	Val	Leu	Ser	Asp	Gly	Gln	
		115					120					125				
Gln	Trp	Thr	Lys	Asp	Asp	Val	Asp	Glu	Val	Ala	Lys	Ile	Ile	Ser	Leu	
	130					135					140					
Ala	Glu	Lys	His	Ser	Leu	Val	Ala	Ala	Leu	Glu	Val	His	Asp	Ala	Leu	
145					150					155					160	
Gly	Thr	Asp	Asp	Ile	Glu	Pro	Leu	Leu	Lys	Thr	Val	Asp	Tyr	Trp	Ile	
				165				170						175		
Glu	Ile	Lys	Asp	Ala	Leu	Ile	Gly	Lys	Glu	Asp	Lys	Val	Ile	Ile	Asn	
			180					185					190			
Ile	Ser	Asn	Glu	Trp	Phe	Gly	Ser	Trp	Ser	Ser	Glu	Gly	Trp	Ala	Asp	
		195					200					205				
Gly	Tyr	Lys	Lys	Ala	Ile	Pro	Leu	Leu	Arg	Glu	Ala	Gly	Leu	Lys	His	
	210					215					220					
Thr	Leu	Met	Val	Asp	Ala	Ala	Gly	Trp	Gly	Gln	Phe	Pro	Arg	Ser	Ile	
225					230					235					240	
His	Glu	Lys	Gly	Leu	Glu	Val	Phe	Asn	Ser	Asp	Pro	Leu	Lys	Asn	Thr	
				245					250					255		
Met	Phe	Ser	Ile	His	Met	Tyr	Glu	Trp	Ala	Ala	Gly	Asn	Pro	Gln	Gln	
			260					265					270			
Val	Lys	Asp	Asn	Ile	Asp	Gly	Val	Leu	Glu	Lys	Asn	Leu	Ala	Val	Val	
		275					280					285				
Ile	Gly	Glu	Phe	Gly	His	His	His	Tyr	Gly	Arg	Asp	Val	Ala	Val	Asp	
	290					295					300					

Thr Ile Leu Ser His Ser Glu Lys Tyr Asp Val Gly Trp Leu Ala Trp
 305 310 315 320

Ser Trp His Gly Asn Ser Gly Gly Val Glu Tyr Leu Asp Leu Ala Thr
 325 330 335

Asp Phe Ser Gly Thr Gln Leu Thr Glu Trp Gly Glu Arg Ile Val His
 340 345 350

Gly Pro Asn Gly Leu Lys Glu Thr Ser Glu Ile Val Ser Val Tyr Lys
 355 360 365

Lys

<210> 17
 <211> 915
 <212> DNA
 <213> Bacillus sp.

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 agcgaattgc aggccatcaa agaccttggt cttgctgtca tgattggtga attcggatac 240
 aactacaaca acggcaataa caacttgggg agtcagggtta acgcccagga aatcatgaat 300
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 aatataatctc taggcgccac tcaaaaagct ttgcaaacca cagcgtccca taatttcagc 660
 ggccgggtcta cattatccgt aagagtaaag catgcagcat ggggaaatca cggcagcggc 720
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 gtaaacatca acagctcggg caacacattg acgctaaacc tggcaggcat tcctaattcg 840
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 gcaatttatg ttgac 915

<210> 18
 <211> 305
 <212> PRT
 <213> Bacillus sp.

<400> 18
 Ile Ser Thr Leu Arg Asn Ala Gly Ile Arg Asn Thr Ile Val Val Asp
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Ala Ser Gly Trp Gly Gln Asn Ser Ser Pro Ile Lys Ala Tyr Gly Asn
 20 25 30

Glu Val Leu Asn His Asp Pro Gln Arg Asn Val Met Phe Ser Ile His
 35 40 45

Met Tyr Gly Ser Trp Asn Asn Gln Ser Arg Ile Gly Ser Glu Leu Gln
 50 55 60

Ala Ile Lys Asp Leu Gly Leu Ala Val Met Ile Gly Glu Phe Gly Tyr

65

70

75

80

Asn Tyr Asn Asn Gly Asn Asn Asn Leu Gly Ser Gln Val Asn Ala Gln
85 90 95

Glu Ile Met Asn Gln Ala Gln Ala Lys Gly Ile Gly Tyr Met Pro Trp
100 105 110

Ser Trp Thr Gly Asn Asp Ala Ala Asn Ser Trp Leu Asp Met Thr Thr
115 120 125

Asn Asp Trp Gln Thr Leu Thr Ser Trp Gly Asn Leu Val Val Asn Gly
130 135 140

Thr Asn Gly Ile Arg Ala Thr Ser Val Pro Ala Thr Val Phe Asn Thr
145 150 155 160

Gln Thr Thr Ile Tyr Asp Phe Glu Gly Gly Asn Ala Gln Gly Trp Ser
165 170 175

Gly Ser Gly Leu Ser Gly Gly Pro Trp Ser Val Asn Glu Trp Ala Ala
180 185 190

Ser Gly Ser Tyr Ser Leu Lys Ala Asn Ile Ser Leu Gly Ala Thr Gln
195 200 205

Lys Ala Leu Gln Thr Thr Ala Ser His Asn Phe Ser Gly Arg Ser Thr
210 215 220

Leu Ser Val Arg Val Lys His Ala Ala Trp Gly Asn His Gly Ser Gly
225 230 235 240

Met Gln Ala Lys Leu Tyr Val Lys Thr Gly Ala Gly Tyr Ala Trp Tyr
245 250 255

Asp Gly Gly Thr Val Asn Ile Asn Ser Ser Gly Asn Thr Leu Thr Leu
260 265 270

Asn Leu Ala Gly Ile Pro Asn Leu Asn Asp Val Arg Glu Leu Gly Ile
275 280 285

Glu Phe Ile Thr Pro Ala Asn Ser Ser Gly Ser Phe Ala Ile Tyr Val
290 295 300

Asp
305

<210> 19

<211> 397

<212> DNA

<213> *Bacillus clausii*

<400> 19

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caacaatggg agcgagatac cgtagcggaa gttgaaagag tgcttgacagt taccgaagag 300

gaaggcttga cggctgtact tgaagttcat gatgcgacgg gaagtgatga tccaaacgat 360
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<210> 20
 <211> 132
 <212> PRT
 <213> *Bacillus clausii*

<400> 20
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 20 25 30
 Gln Leu Leu Asp Gly Glu Gly Asn Pro Tyr Val Met Arg Gly Val Asn
 35 40 45
 His Gly His Ser Trp Phe Lys Gln Asp Leu Asp Thr Ala Ile Pro Ala
 50 55 60
 Ile Ala Ala Thr Gly Ala Asn Thr Val Arg Ile Val Leu Ser Asn Gly
 65 70 75 80
 Gln Gln Trp Glu Arg Asp Thr Val Ala Glu Val Glu Arg Val Leu Ala
 85 90 95
 Val Thr Glu Glu Glu Gly Leu Thr Ala Val Leu Glu Val His Asp Ala
 100 105 110
 Thr Gly Ser Asp Asp Pro Asn Asp Leu Phe Thr Ala Val Glu Tyr Trp
 115 120 125
 Ser Glu Arg Gly
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<210> 21
 <211> 960
 <212> DNA
 <213> *Bacillus sp.*

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 gcccatcgt taatagttag tgcggcaggt tggggacagt accctgcctc tatccatgag 600
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 gaaaatcttg ctgtggtaat cgggtgaattt ggccataggg atcatgatgg cgatgtcgat 780
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<210> 22
<211> 320
<212> PRT
<213> Bacillus sp.
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Val Leu Phe Val Tyr Ser Ser Gly Leu Ala Ser Ala Gln Ser Gly Phe
20 25 30

His	Val	Lys	Gly	Thr	Glu	Leu	Leu	Asp	Lys	Asn	Gly	Asp	Pro	Tyr	Val
		35					40					45			

Met Arg Gly Val Asn His Gly His Ser Trp Phe Lys Gln Asp Leu Glu
50 55 60

Glu Ala Ile Pro Ala Ile Ala Glu Thr Gly Ala Asn Thr Val Arg Ile
65 70 75 80

Val Leu Ser Asn Gly Gln Gln Trp Glu Lys Asp Asp Ala Ser Glu Leu
85 90 95

Ala Arg Val Leu Ala Ala Thr Glu Thr Tyr Gly Leu Thr Thr Val Leu
100 105 110

Glu Val His Asp Ala Thr Gly Ser Asp Asn Pro Asp Asp Leu Asp Lys
115 120 125

Ala Val Asp Tyr Trp Ile Glu Met Ala Asp Val Leu Lys Gly Thr Glu
130 135 140

Asp Arg Val Ile Ile Asn Ile Ala Asn Glu Trp Tyr Gly Ala Trp Arg
145 150 155 160

Ser Asp Val Trp Ala Glu Ala Tyr Ala Gln Ala Ile Pro Arg Leu Arg
165 170 175

Ser Ala Gly Leu Ala His Thr Leu Ile Val Asp Ala Ala Gly Trp Gly
180 185 190

Gln Tyr Pro Ala Ser Ile His Glu Arg Gly Ala Asp Val Phe Ala Ser
195 200 205

Asp Pro Leu Lys Asn Thr Met Phe Ser Ile His Met Tyr Glu Tyr Ala
210 215 220

Gly Ala Asp Arg Ala Thr Val Ser Glu Asn Ile Asp Gly Val Leu Ala
225 230 235 240

Glu Asn Leu Ala Val Val Ile Gly Glu Phe Gly His Arg His His Asp
245 250 255

Gly Asp Val Asp Glu Asp Ala Ile Leu Ala Tyr Thr Ala Glu Arg Gln
260 265 270

Val Gly Trp Leu Ala Trp Ser Trp Tyr Gly Asn Ser Gly Gly Val Glu
275 280 285

Tyr Leu Asp Leu Thr Glu Gly Pro Ser Gly Pro Leu Thr Ser Trp Gly
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Glu Arg Ile Val Tyr Gly Glu Met Gly Leu Lys Val Ile Asp His Leu
305 310 315 320

<210> 23
<211> 564
<212> DNA
<213> Bacillus sp.

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gcccatacgt taataattga tgcc 564

<210> 24
<211> 188
<212> PRT
<213> Bacillus sp.

<400> 24
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His Val Lys Gly Thr Glu Leu Leu Asp Lys Asn Gly Asp Pro Tyr Val
35 40 45
Met Arg Gly Val Asn His Gly His Ser Trp Phe Lys Gln Asp Leu Glu
50 55 60
Glu Ala Ile Pro Ala Ile Ala Glu Thr Gly Ala Asn Thr Val Arg Ile
65 70 75 80
Val Leu Ser Asn Gly Gln Gln Trp Glu Lys Asp Asp Ala Ser Glu Leu
85 90 95
Ala Arg Val Leu Ala Ala Thr Glu Thr Tyr Gly Leu Thr Thr Val Leu
100 105 110
Glu Val His Asp Ala Thr Gly Ser Asp Asn Pro Asp Asp Leu Asp Lys

115

120

125

Ala Val Asp Tyr Trp Ile Glu Met Ala Asp Val Leu Lys Gly Thr Glu
130 135 140

Asp Arg Val Ile Ile Asn Ile Ala Asn Glu Trp Tyr Gly Ala Trp Arg
145 150 155 160

Ser Asp Leu Trp Ala Lys Ala Tyr Ala Gln Ala Ile Pro Arg Leu Arg
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Ser Ala Gly Leu Ala His Thr Leu Ile Ile Asp Ala
180 185

<210> 25

<211> 2445

<212> DNA

<213> Bacillus sp.

<400> 25

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 <211> 815
 <212> PRT
 <213> Bacillus sp.

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 35 40 45
 Ala Thr Thr Thr Gly Asn Ala Val Phe Thr Thr Glu Pro Val Glu Asp
 50 55 60
 Gly Glu Tyr Ala Gly Pro Gly Tyr Ile Ser Phe Phe Ser Glu Asp Ser
 65 70 75 80
 Ser Pro Pro Ser Ser Ser Thr Thr Phe His Ile Gln Ala Asp Lys Thr
 85 90 95
 Glu Leu Tyr His Leu Ser Ile Gly Tyr Tyr Ala Pro Tyr Gly Asn Lys
 100 105 110
 Gly Thr Thr Ile Leu Val Asn Gly Ala Gly Asn Gly Glu Phe Met Leu
 115 120 125
 Pro Ala Pro Glu Asp Gly Ala Val Ser Ala Glu Val Glu Ile Ser Lys
 130 135 140
 Ile Leu Leu Glu Glu Gly Asn Asn Thr Ile Thr Phe Thr Arg Gly Trp
 145 150 155 160
 Gly Tyr Tyr Gly Ile Glu Tyr Ile Arg Val Glu Pro Val Asn Pro Thr
 165 170 175
 Leu Pro Thr Ile Phe Ile Glu Ala Glu Glu Asp Tyr Glu Ala Thr Gly
 180 185 190
 Asn Val Ser Val Thr Asn Glu Ile Glu Gly Tyr Ser Gly Ala Gly Tyr
 195 200 205
 Leu Phe Asn Gln Glu Gly Thr Ile His Trp Asn Val Thr Ser Pro Glu
 210 215 220
 Thr Ser Ile Tyr Glu Val Ile Val Ala Tyr Ala Ala Pro Tyr Gly Asp
 225 230 235 240
 Lys Gln Thr Asn Leu Thr Val Asn Gly Gln Gly Thr Val Asn Leu Asp
 245 250 255
 Leu Lys Glu Thr Glu Val Phe Val Glu Leu Asn Val Gly Ile Val Ser

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305							310					315				
Glu	Ala	Arg	Ala	Leu	Ile	Asn	Tyr	Leu	Val	Asp	Gln	Tyr	Gly	Asn	Lys	
325							330					335				
Ile	Leu	Ser	Gly	Gln	Thr	Glu	Leu	Lys	Asp	Ala	Arg	Trp	Ile	His	Glu	
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Gln	Val	Gly	Lys	Tyr	Pro	Ala	Val	Met	Ala	Val	Asp	Phe	Met	Asp	Tyr	
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Ser	Pro	Ser	Arg	Val	Val	His	Gly	Ala	Thr	Gly	Thr	Ala	Val	Glu	Glu	
370							375					380				
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485							490					495				
Arg	Tyr	Thr	Asn	His	His	Lys	Leu	Asn	Asn	Leu	Ile	Trp	Met	Trp	Asn	
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530							535					540				
Lys	Tyr	Glu	His	Leu	Lys	Glu	Leu	Val	Gln	Asp	Lys	Lys	Leu	Val	Ala	
545							550					555				
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565							570					575				
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580

585

590

Asp Gly Ile Ser Asn Pro Ile Glu His Leu Gln Lys Val Phe His His
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Asp Tyr Val Ile Thr Leu Asp Glu Leu Pro Glu Asn Leu Ser Arg Tyr
610 615 620

Gly Leu Ser Glu Gly Val Trp Lys Ser Asp Ala Asp Leu Ser Val Lys
625 630 635 640

Thr Arg Thr Thr Ser Glu Ile Thr Val Asn Trp Ser Asn Ala Ile Gln
645 650 655

Tyr Asp Ser Val Asn Gly Tyr Lys Leu Ile Lys Asp Gly Val Glu Thr
660 665 670

Val Ser Val Glu Gly Gly Val Gln Glu Tyr Thr Phe Thr Asn Leu Leu
675 680 685

Pro Gly Thr Gln Tyr Thr Ile Lys Val Glu Ala Leu Asp Gln Asp Asp
690 695 700

Arg Trp Thr Ala Asp Gly Pro Val Ala Val Val Ser Thr Leu Ser Asn
705 710 715 720

Ala Pro Ile Ser Tyr Pro Pro Ala Val Thr Pro Asp Glu Pro Asn Glu
725 730 735

Glu Leu Ser Glu Gly Glu Tyr Thr Leu Leu Ala Asp Asp Leu Ser Ser
740 745 750

Gln Asp Gly Val Leu Glu Val Ser Leu Glu Pro Thr Val Thr Lys Leu
755 760 765

Ile Ile Pro Ser Ala Leu Ala Gly Thr Leu Asp Gly Asp Leu Arg Ile
770 775 780

Gly Tyr Gly Asp Val Trp Ile Val Ile Pro His Glu Gln Leu Gly Gly
785 790 795 800

Asp Glu Gln Gln Ser Gly Ser Ala Tyr Glu Leu Val Leu Glu Ile
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<210> 27

<211> 1488

<212> DNA

<213> Bacillus sp.

<400> 27

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gtaagaatat ttgaagctga agatgctatt ttaaatgggc tgactattaa aaattctgaa 180
ccaggttttt ctggtaccgg atatgtaggt gactttgaaa atagctctca gagtgtgacg 240
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tatggaagtg gaaaagtagc taatgttatt gtaaattggag agaagctaag tacttttaca 360
atgggaagtg gctttggtaa agcgtcagca ggaaaggtat tacttaattc aggcttaaatt 420
actatctcga ttactcctaa ttggacatgg tttaccattg attatattga agttatacat 480

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 <211> 496
 <212> PRT
 <213> Bacillus sp.

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 35 40 45
 Ala Ile Leu Asn Gly Leu Thr Ile Lys Asn Ser Glu Pro Gly Phe Ser
 50 55 60
 Gly Thr Gly Tyr Val Gly Asp Phe Glu Asn Ser Ser Gln Ser Val Thr
 65 70 75 80
 Phe Gln Ile Glu Ala Pro Lys Ala Gly Leu Tyr Asn Leu Asn Ile Gly
 85 90 95
 Tyr Gly Ala Ile Tyr Gly Ser Gly Lys Val Ala Asn Val Ile Val Asn
 100 105 110
 Gly Glu Lys Leu Ser Thr Phe Thr Met Gly Ser Gly Phe Gly Lys Ala
 115 120 125
 Ser Ala Gly Lys Val Leu Leu Asn Ser Gly Leu Asn Thr Ile Ser Ile
 130 135 140
 Thr Pro Asn Trp Thr Trp Phe Thr Ile Asp Tyr Ile Glu Val Ile His
 145 150 155 160
 Ala Pro Glu Pro Glu Asn His Asn Val Glu Lys Thr Leu Ile Asn Pro
 165 170 175
 Asn Ala Thr Asp Glu Ala Lys Ala Leu Ile Ser Tyr Leu Val Asp Asn
 180 185 190

Phe Gly Glu Lys Ile Leu Ala Gly Gln His Asp Tyr Pro Asn Thr Arg
 195 200 205
 Pro Arg Asp Leu Glu Tyr Ile Tyr Glu Thr Thr Gly Lys Tyr Pro Ala
 210 215 220
 Val Leu Gly Leu Asp Phe Ile Asp Asn Ser Pro Ser Arg Val Glu Arg
 225 230 235 240
 Gly Ala Ser Ala Asp Glu Thr Pro Val Ala Ile Asp Trp Trp Asn Lys
 245 250 255
 Gly Gly Ile Val Thr Phe Thr Trp His Trp Asn Ala Pro Lys Asp Leu
 260 265 270
 Leu Asp Glu Pro Gly Asn Glu Trp Trp Ser Gly Phe Tyr Thr Arg Ala
 275 280 285
 Thr Thr Phe Asp Val Glu Tyr Ala Leu Lys His Pro Lys Ser Glu Asp
 290 295 300
 Tyr Met Leu Leu Ile Arg Asp Ile Asp Val Ile Ala Gly Glu Leu Lys
 305 310 315 320
 Lys Leu Gln Glu Ala Asn Val Pro Val Leu Trp Arg Pro Leu His Glu
 325 330 335
 Ala Glu Gly Gly Trp Phe Trp Trp Gly Ala Lys Gly Pro Glu Ser Thr
 340 345 350
 Lys Glu Leu Trp Arg Leu Met Tyr Asp Arg Met Thr Asn Tyr His Asn
 355 360 365
 Leu Asn Asn Leu Ile Trp Val Trp Asn Ser Ile Glu Glu Asp Trp Tyr
 370 375 380
 Pro Gly Asp Glu Tyr Val Asp Ile Val Ser Phe Asp Ser Tyr Pro Gly
 385 390 395 400
 Glu Tyr Asn Tyr Ser Pro Met Ser Arg Glu Tyr Glu Ala Leu Lys Glu
 405 410 415
 Leu Ser Ser Asn Lys Lys Leu Ile Ala Ile Ala Glu Asn Gly Pro Ile
 420 425 430
 Pro Asp Pro Asp Leu Leu Gln Leu Tyr His Ala Asn Tyr Ser Trp Phe
 435 440 445
 Ala Thr Trp Asn Gly Asp Ile Leu Arg Asn Gln Asn Ser Glu Glu His
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<210> 29
 <211> 1086
 <212> DNA
 <213> Bacillus licheniformis

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 gaataa 1086

<210> 30
 <211> 361
 <212> PRT
 <213> Bacillus licheniformis

<400> 30
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 Gln Asn Ala Gln Ser Thr Thr Lys Glu Leu Met Asn Trp Leu Ala His
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 Tyr Ser Asn Ala Thr Phe Ser Met Lys Glu Ala Asn Arg Ile Lys Asp
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 Ala Thr Gly Gln Ser Pro Val Val Tyr Ala Cys Asp Tyr Ser Arg Gly
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 Trp Leu Glu Thr Ala His Ile Ala Asp Ala Ile Asp Tyr Ser Cys Asn
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 Ser Asp Leu Ile Ser His Trp Lys Ser Gly Gly Ile Pro Gln Ile Ser
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Met His Leu Pro Asn Pro Ala Phe Gln Ser Gly Asn Tyr Lys Thr Lys
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Ile Ser Asn Ser Gln Tyr Glu Lys Ile Leu Asp Ser Ser Thr Thr Glu
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Gly Lys Arg Leu Asp Ala Val Leu Ser Lys Val Ala Asp Gly Leu Gln
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Gln Leu Lys Asn Glu Gly Val Pro Val Leu Phe Arg Pro Leu His Glu
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Met Asn Gly Glu Trp Phe Trp Trp Gly Leu Thr Gly Tyr Asn Gln Lys
 195 200 205

Asp Ser Glu Arg Ile Ser Leu Tyr Lys Gln Leu Tyr Gln Lys Ile Tyr
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His Tyr Met Thr Asp Thr Arg Gly Leu Asp Asn Leu Ile Trp Val Tyr
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Ala Pro Asp Ala Asn Arg Asp Phe Lys Thr Asp Phe Tyr Pro Gly Asp
 245 250 255

Ser Tyr Val Asp Ile Val Gly Leu Asp Ala Tyr Phe Ser Asp Ala Tyr
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Ser Ile Lys Gly Tyr Asp Glu Leu Thr Ala Leu Asn Lys Pro Phe Ala
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Gln Phe Ile Asn Ala Val Lys Gln Lys Tyr Pro Lys Thr Ile Tyr Phe
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Leu Ala Trp Asp Glu Gly Trp Ser Pro Ala Ala Asn Gln Gly Ala Phe
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<211> 3041

<212> DNA

<213> Caldocellulosiruptor sp.

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<211> 903

<212> PRT

<213> *Caldocellulosiruptor* sp.

<400> 32

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 Ser Val Glu Phe Glu Met Phe Val Pro Tyr Asp Glu Phe Ala Lys Ala
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Asn Leu Tyr Asn Val Lys Glu Lys Ala Gly Val Leu Val Leu Arg Ile
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Ala Gly Ser Tyr Val Lys Tyr Thr Gly Pro Ile Tyr Ile Asp Asn Val
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Thr Leu Ile Ala Gly Lys Lys Val Ala Pro Lys Val Glu Arg Ile Ser
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Leu Pro Asn Pro Lys Thr Tyr Tyr Lys Val Lys Ile Glu Ala Glu Ser
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Ala Ser Asp Gly Trp Ala Tyr Ser Val Glu Lys Glu Asn Ala Lys Phe
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Leu Tyr Asn Ile Lys Val Pro Lys Thr Gly His Tyr Ile Phe Thr Leu
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Asp Tyr Phe Val Ile Glu Glu Leu Val Ala Ala Asn Lys Ser Lys Leu
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Ser Pro Ser Arg Val Gln His Gly Thr Lys Gly Thr Asp Val Asp Glu
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Arg Gly Phe Tyr Thr Glu Ala Thr Thr Phe Asp Leu Lys Lys Ala Met
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Asp Asn Pro Asn Ser Glu Glu Tyr Lys Leu Ile Leu Arg Asp Ile Asp
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Ala Lys Gly Pro Glu Pro Tyr Ile Lys Leu Trp Lys Leu Met Phe Asp
755 760 765

Arg Leu Val Asn Tyr His Lys Ile Asn Asn Leu Ile Trp Val Trp Asn
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Thr Gly Ser Lys Tyr Asn Asp Glu Trp Asn Asp Asn His Met Leu Arg
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